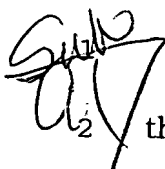What is claimed is:

1. A method of processing a message comprised of a plurality of layers, the method comprising the steps of:

3   linking a plurality of layers; and

4   encoding each layer of the plurality of layers after the step of linking is

5   complete.

1   2.   The method according to claim 1, wherein the step of linking

2   comprises the steps of:

3   determining an address of a first layer context;

4   passing the address of the first layer context to a second layer, which is

5   adjacent to the first layer; and

6   setting a second layer context address equal to the address of the first

7   layer, whereby the contexts of the first and second layers are linked.

1   3. The method according to claim 2, further comprising the steps of:

2   passing the address of the linked contexts of the first and second layers

3   to an adjacent subsequent layer;

4   setting a context of the adjacent subsequent layer equal to the address

5   of the linked context of the first and second layers, whereby the linked context

6   and the context to the adjacent subsequent layer are thereby linked; and

7   repeating the steps of linking layer contexts until each layer in the

8   plurality of layer are linked.

1   4.   The method according to claim 3, wherein each layer context

2   comprises variables and methods.

1   5.   The method according to claim 4, wherein the variables comprise at

2   least header and trailer field values, buffer positions and addresses to other

3   contexts.

1   6.   The method according to claim 4, wherein the methods comprise at

2   least methods for encoding and decoding, one method decoding being a

3   method for furnishing a context of a message.

1   7.   The method according to claim 6, wherein the method for encoding

2   comprises a method for computing message body dependent fields to include

3   message length and CRC fields.

1   8.   The method according to claim 1, wherein the step of encoding

2   comprises the steps of:

3   incrementing a current buffer position by a header length of a first layer

4   in the linked plurality of layers;

5 setting the current buffer position equal to the buffer position obtained

6 by incrementing the current buffer position by the header length of the first

7 layer; and

8 repeating the incrementing and setting steps for each of the remaining

9 linked layers.

1 9. The method according to claim 8, further comprising the steps of:

2 calculating an aggregate value for layers having variable length headers;

3 and

4 setting the aggregate value equal to the header length in said

5 incrementing step.

1 10. The method according to claim 8, further comprising the step of:

2 terminating buffer incrementing upon detection of an end-of-layer

3 indicator.

1 11. The method according to claim 8, further comprising the steps of:

2 moving header field data of each layer in the buffer into a message

3 stream; and

4 moving trailer field data of each layer into the message stream,

5 wherein the movement of the header field data and trailer field data

6 results in a formatted message stream having disposed therein encoded data

7 obtained from the linked plurality of layers.

1   12. The method according to claim 11, wherein the trailer field data

2 associated with each layer comprises CRC/FCS data.

1   13. The method according to claim 1, wherein the step of linking

2 entails linking layers comprising unformatted layer values.

1   14. The method according to claim 1, wherein the encoding step

2 encodes each layer of the linked plurality of layers into a single buffer.

1   15. A method for processing a formatted layered message for

2 transmission over a communication network, the formatted layered message

3 having encoded data, the processing of the formatted layered message

4 comprising the steps of:

5   combining unformatted elements to link a plurality of layers; and

6   using a method on the unformatted elements to form the formatted

7 layered message.